

Benchmarks

These are the articles published in the Spring/Summer 1997 issue.

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because, over time, many sites shutdown or change addresses thus voiding all links to them. Please keep in mind that all links may not work as they should.

World Wide Web '97

- [Information Overload](#)
- [Shift Key \(part 1\)](#)
- [Browsers: the Next Generation](#)
- [We've Come a Long Way, Baby](#)
- [WWW@UNT.EDU](#)
- [UNT Participates in eXcite Survey](#)
- [I am Curious Yellow](#)
- [Speeding Up Your Web Page](#)
- [HTML3.2 and Beyond](#)
- [Shift Key \(Part 2\)](#)
- [Privacy on the Internet](#)
- [The Network Connection](#)
- [List of the Month](#)
- [Dealing With Junk E-mail](#)
- [Supreme Court to Rule in CDA Case](#)

General Information

- [Things are Changing](#)
- [Statistical Computing Tips](#)
- [IRC News](#)
- [1996 COMPUSTAT Data Available](#)
- [Who's Who in Distributed Learning](#)

[1997 Index](#)



First Article

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

Information Overload

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

Well, it's official. If you feel besieged by information, have problems concentrating, suffer from low morale, feel unmotivated, and are pretty darn irritated, you may well be suffering from *Information Fatigue Syndrome*. That's the term psychologists have coined to describe an illness that is affecting more and more people worldwide, according to an article published in the April 15, 1997 "SCI-TECH" section of [CNN Interactive](#). There are physical aspects to the illness as well: digestive problems, hypertension, and sleep disorders.

The cause of this malady? You guessed it - the Internet. People are being bombarded with so much information that they are having trouble making decisions. They keep waiting for more data.

The good news, according to the CNN article, is that there are ways of coping with information overload. Recommendations include: *Learn to pace yourself; Take breaks to give your brain time to absorb information; Know when to skim and when to study.*

While *Benchmarks* may contribute to your information overload, it can also provide strategies for finding and processing information that will be beneficial to you. We hope the articles in this issue, many highlighting various aspects of the World Wide Web, will fall into the "beneficial" category for you.

"Experts: Information onslaught bad for your health"
<http://www.cnn.com/TECH/9704/15/info.overload/index.html>.

[Table of Contents](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

S H I F T K E Y

randy@unt.edu
by rand milholand



Drive-By Shootings on the Information Super-Highway

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

Browsers: The Next Generation

By Mark Wilcox, CWIS Coordinator (mewilcox@unt.edu)

I know what you're thinking. An entire column about browsers? How !@#\$! boring. I mean what is there possibly to say about browsers except that really only [Netscape](#) and [Internet Explorer](#) are the ones worth using (just from pure market forces) but don't forget to keep your web pages plain looking enough in the chance that an old browser hits your site.

That thinking is wrong. Browsers are changing, in fact, they will become harder and harder to find as individual entities because they will be built into about every piece of software you use.

What exactly is a browser?

A browser is essentially a program that allows you to view documents. Normally when we talk about browsers we mean a program that allows us to view HTML coded documents including simple images. But a browser could view any document.

Way back in the dark ages (e.g. the late '80s) there were programs that enabled you to view documents created in [Wordperfect](#), [Microsoft Word](#), [Lotus 1-2-3](#), etc. Like a HTML browser you could view the document but couldn't change them.

Even now there are other browsers besides HTML browsers. [Adobe Acrobat](#), a common Netscape/IE plugin is a browser. It allows you to view Adobe PDF files, but you can't edit them without [Adobe Pagemaker](#).

Microsoft has several viewers that can plug-in to Netscape and it's own browser - Internet Explorer, can view just about any Microsoft created document (such as a Word document or [Excel](#) spreadsheet or a [Powerpoint](#) presentation) without installing extra-plugins.

Topping it off is the fact that HTML is just plain text (ASCII text for purists) with instructions for display in a program capable of reading those instructions. This is why notepad ([Windows](#)) or simpletext ([Macintosh](#)) or [vi](#) (UNIX) are the most common HTML 'editors' and also why nearly all the modern word-processors are capable of at least translating their proprietary formats to HTML if not in fact capable of displaying HTML.

The Next Generation

"Yeah, yeah, yeah, Mark," I hear you saying. "So what are you getting at?"

What I'm getting at is the fact that with the next versions of both Netscape and Internet Explorer the way you will be able to compute will be different. I'm currently beta testing Netscape 4.0 (you can too if you go to <http://home.netscape.com>) and will test Internet Explorer 4.0 (keep checking out <http://www.microsoft.com>) as soon as it's ready.

Netscape

In Netscape 4.0, **Navigator**, the current number one browser, is no longer a separate program. It's one of a suite of programs.

- There is Navigator for browsing files on the Internet.

- There's **IBM Host-on-Demand** for logging onto mainframe computers.
- There's **Collaborator** for network wide group collaboration, which includes a white board (think of Paintbrush but more than one person can use it at the same time), two-way real-time chat (IRC without the confusion), a network based calendar program (Something like Groupwise but viewable from anywhere in the world) and a shared browsing function (Instead of having to try and tell everyone those long URL's instead, you can lead them there).
- There's also an email and news reader that supports both regular text and HTML.
- Finally there is **Composer** which is akin to the HTML editor built into the current version of Netscape Gold, but it is now included in the regular package.

Composer can be used as a standard HTML editor (it's almost on par with Microsoft [Frontpage](#), the current best editor, if you have [Win 95](#)), or it can also be used to write your e-mail message or newsgroup posting.

This goes along way towards making HTML the language of the overall Internet. There is also a "professional" version of Netscape 4.0 for network administrators. The current beta version is just a step towards Netscape's final creation called Netscape **Constellation**.

This initiative is designed specifically for enterprises (such as [UNT](#)) that have various types of entrenched computer users - Windows users, Mac users, UNIX users, etc. - who want to be able to access the same interface (that they have spent hours/days on "perfecting") regardless of which computer they are logged into and what platform they are on.

Netscape intends to make this a reality by placing the desktop on the network. You will login to a machine and start up Netscape. This will bring up your desktop which can include links to your favorite web sites, the latest headlines can scroll across the bottom and also links to your other applications, if those applications reside locally on the computer you are on.

Constellation will also require the use of Netscape's server software, called Suite Spot. Netscape is also working with leading developers in creating programs written in the [JAVA](#) programming language so that your favorite software will also reside on the network instead of locally.

So far only [Corel](#) has done anything. They have a very early version of their Wordperfect Office Suite written in Java available for download at <http://officeforjava.corel.com>.

Internet Explorer

Not to be outdone, Microsoft has its own super-browser visions. In the next version of Internet Explorer (4.0) and also the next update of their operating system (Windows Sometime before 2000 :-) - aka Windows 97) will be what they are calling **Active Desktop** enabled. This is already seen in the new versions of their Office products.

What Active Desktop means is that it will make it easier for users to more seamless interact with Internet as if it was just another part of their local network. Active-X Controls which are the tools with which drives the Active Desktop environment enable you to hit a web site and if the HTML is correctly encoded the correct browser will be opened.

If you don't have a browser (in this case a browser also means software like audio and video players) for the document then one will be installed for you. Also you will be able to look for files locally on your local machine with the same interface that you look for files on the Internet. All Microsoft products will come with hooks in them to access Internet resources such as HTML documents or audio files. You can insert hyperlinks into any Microsoft Office document and these links can take you to a web site (your Office program will load IE inside your program to view the web site) or to another local Office document or to a location inside the same document.

Finally Microsoft has taken much of the pain out of creating a fully functional web site with their program **Frontpage**. It uses the same basic interface as the rest of the Office suite and uses the Word spell checker. It also provides many templates and utilities to ease the maintenance of your web site as well as the ability to translate many other common document formats to HTML. Finally if the web server has the Frontpage extensions installed on it, then publishing your web site is as easy as saving a file. In fact you use the same *File Save As* command as you would with a word processor. It takes the pain out of FTP.

Push Technology

Wrapping up there are other technologies emerging too such as **Castanet** from Marimba (<http://www.marimba.com>), who are competing with another company, **Pointcast** (<http://www.pointcast.com>). These companies specialize in what's called Push technology (spam in e-mail or on newsgroups is also Push technology :-).

You use their software to request information or programs be sent to you on a regular basis. This can range from the latest news, sports, weather, etc. to new interactive games. Both companies make it easy for institutions/corporations set it up to serve up their own Push information. With Castanet you can even set it up to download and install software updates. They are not browsers per say but both companies technologies will be integrated into both Netscape and Microsoft products.

Conclusion

Finally, I realize that in discussing browsers I really focused on only two, Netscape and Microsoft. While there are numerous browsers out there and most work very nice, but the facts are that Netscape and Microsoft dominate. Combined they make up over 90% of the market. The last piece really large enough to consider a possibility is [AOL's](#) browser and it is only there because AOL is the largest Internet Service Provider.

The past four or five years have been perhaps the most exciting years in the history of computing and as these new technologies emerge they should help the Internet get beyond the fancy billboard, hip stage to an actual productive, interactive environment.

If the term "spam" caught your attention, you may be interested in the articles, [The Network Connection](#), [List of the Month](#), and [Dealing With Junk E-Mail](#).

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon us as soon as possible. You can send mail to the following address: www@unt.edu

We've Come a Long Way, Baby

If you don't think so, just look at these links.

February 14, 1996 marked the beginning of the 18-month celebration of ENIAC's 50th anniversary. ENIAC, you may remember, was the world's first electronic, large scale, general-purpose computer. It was activated at the [University of Pennsylvania](#) in 1946, and they just happen to have a Web Page dedicated to "The Birth of the Information Age" (<http://www.seas.upenn.edu/~museum/>). Interestingly, all the original ENIAC programmers (six) were women.

Many more historical links can be found at "The Virtual Museum of Computing" (<http://www.comlab.ox.ac.uk/archive/other/museums/computing.html>).

Speaking of history, there is a very interesting article by some of the folks that made the Internet what it is today. "A Brief History of the Internet, Version 3.1" (<http://www.isoc.org/internet-history/>) is written by such folkd as Vinton Cerf (TCP/IP), Leonard Kleinrock (packet switching theory), Robert Kahn (ARPANET), and Stephen Wolff (NSFNET).

"Technology CyberTrends" (<http://www.duke.edu/%7Emccann/q-tech.htm>) gives a glimpse at what our technological future may be like.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon us as soon as possible. You can send mail to the following address: www@unt.edu

WWW@UNT.EDU

By [Mark Wilcox](#), CWIS Coordinator (mewilcox@unt.edu)

This column covers features and resources available through the University's Campus Wide Information System (CWIS). UNT's Home Page on the World Wide Web can be found at <http://www.unt.edu>. It was previously called "Cobwebs."

Here we are again. Another column, another name. The name looks like an e-mail address because it is one, www@unt.edu, is the best way to get a hold of UNT's web staff.

This issue of *Benchmarks* is dedicated to the World Wide Web, specifically the Web in 1997. The Web in general will continue to be an exciting technology to watch as it continues to develop both on the Internet and at UNT.

New Web Site, New Tools

This year is already nearly half over and it's amazing the amount of things happening here at UNT with the Web. The new Website at <http://www.unt.edu> (the Internet Gods willing, it will be up by the time you read this) is the first truly collaborative effort made on the official Website. It's not perfect but it is a vast improvement on previous versions and we've put the infrastructure in place so that it can be updated on a more frequent manner. Hopefully you find it easier to use and better looking too.

The number of department and colleges/schools who are coming up is growing too. Tools such as [Microsoft Frontpage](#) and [Netscape Navigator Gold](#) (hush you out there who think you should only code HTML in Notepad -- you don't have to provide the tech support ;-) are making creating fully functional websites a fairly painless task. HTML was always designed with the idea that the document creator could focus on content and that presentation would be easy to implement. It was not designed for the bragging rights of who knew the most HTML tags. Anyway, it's getting easier to make Websites.

This is a good thing. I don't know if the Web will be the savior or killer of the world or UNT. I do know that we are providing redundant pathways to information available on this campus which provides improved reliability and convenience. This is only helpful, if the information providers (e.g. the Web Page creators) maintain accurate and current information, thus the need for easy HTML creation (see above).

Distance Learning

[Distance learning](#) is another hot topic in academia. This is where you use a computer, or video or teleconference or a combination of those technologies to take a course. It's possible to even get a full degree or Masters in a subject this way. There are several pluses and minuses to this initiative. UNT is actively pursuing and adding DL classes to its course offerings.

Short Courses

The CWIS office is reworking the short courses taught by the CWIS. Look for at least one additional level of HTML classes (so we'd have a basic, intermediate and advanced) and classes that focus on using Netscape Gold or Microsoft Frontpage as a HTML editor. Netscape Gold is recommended for student users and Microsoft Frontpage for faculty and staff.

Summing it up

In conclusion I would say that the Internet as a whole will continue to improve and UNT will be right there along with it. This technology is still new, raw and immature. We're still learning how to make it work, both the technology and also how to make the technology work for us.

Again if you have any questions or comments, don't hesitate to send us an e-mail at www@unt.edu.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

UNT Participates in eXcite Survey

UNT conducted a survey for Excite Inc., makers of the eXcite Web search engine, from April 11 through April 15. The survey project was overseen by Dr. Amanda Spink (spink@lis.admin.unt.edu) and a team of students from the Graduate School of Library and Information Sciences.

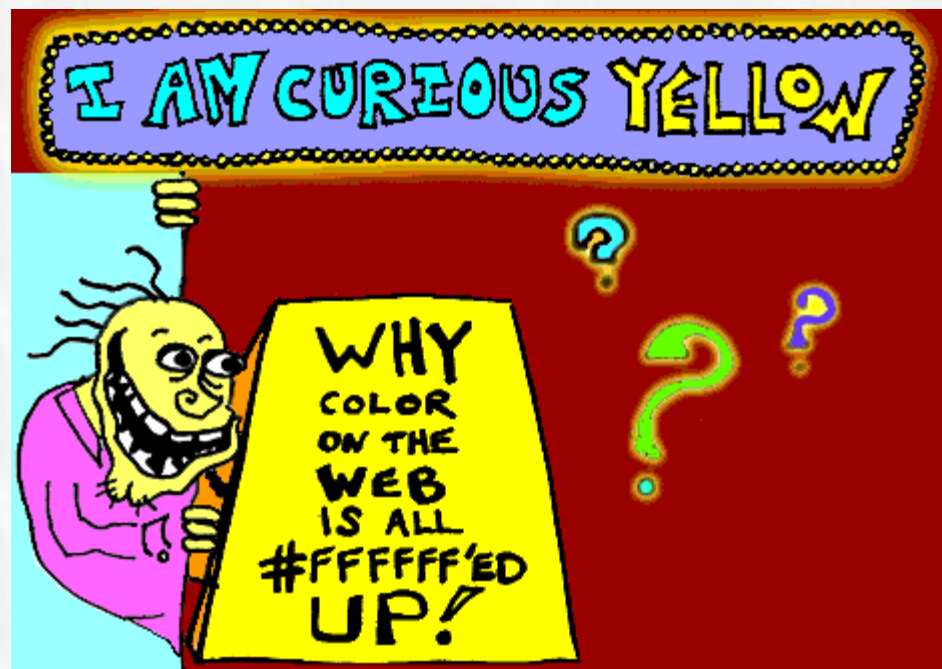
CWIS Coordinator Mark Wilcox (mewilcox@unt.edu) coordinated the actual data collection between UNT and Excite (<http://www.excite.com>). The data will be used by Excite to improve their search engine. It will also provide a wealth of information about Internet searching behavior, much of it to be published in a future paper by Dr. Spink.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu



Reprinted, with permission, from PENN PRINTOUT (Volume 12:6, May 1996). John Macdermott, New Media Specialist for ISC's Academic Computing Services at the [University of Pennsylvania](http://www.upenn.edu/archive/v12/6/curious.html), is the author of the article. It is archived at <http://www.upenn.edu/archive/v12/6/curious.html>

When designing graphics for the Web, it's important to consider how the colors you select will look on different computers. Although many computers can display thousands or millions of colors, your work will most often be viewed on computers limited to 256 colors (8 bit mode). On these machines, color dithering must be considered.

Dithering is the way computers approximate colors that cannot be displayed directly. This process intermingles dots of similar colors to simulate other shades. For example, light blue and dark blue will be dithered to simulate a medium blue. The result of dithering is a dot pattern that often makes a solid color appear to have spots or patterns in it.

Web browsers will dither 8-bit color slightly differently on Macs and PCs running Microsoft Windows. A few simple rules will help you identify colors that will not dither on either platform.

What looks good on a Mac?

Any [Macintosh](#) displaying in 256-color mode will use a predictable set of colors when running [Netscape](#) or any other Web browser. This set of colors is known as the system palette and these colors will not dither; colors not in the system palette will dither.

The RGB (red, green, blue) values that make up the system palette follow two simple rules. The first rule is that 216 of the 256 colors in the system palette use RGB values that are multiples of the number 51. Since RGB values range from 0 to 255, this rule includes:

0, 51, 102, 153, 204, 255

If you use one of these values for R, G, and B in any combination you'll end up with a color in the system palette. Here are four examples of colors that are in the system palette:

Description	RGB Values	Hex Values
White	255,255,255	FFFFFF

Violet	153,51,102	993366
Pale Yellow	255,204,51	FFCC33
Toothpaste Green	0,204,102	00CC66

The second rule is that the remaining 40 colors use values that are multiples of 17. These colors are shades of pure red, green, blue, and gray. Their RGB values are given below. (Note: Multiples of 51 are excluded from the table since those colors were included in the previous group of 216 color values.)

Reds	Greens	Blues	Grays
17,0,0	0,17,0	0,0,17	17,17,17
34,0,0	0,34,0	0,0,34	34,34,34
68,0,0	0,68,0	0,0,68	68,68,68
85,0,0	0,85,0	0,0,85	85,85,85
119,0,0	0,119,0	0,0,119	119,119,119
136,0,0	0,136,0	0,0,136	136,136,136
170,0,0	0,170,0	0,0,170	170,170,170
187,0,0	0,187,0	0,0,187	187,187,187
221,0,0	0,221,0	0,0,221	221,221,221
238,0,0	0,238,0	0,0,238	238,238,238

What looks good on Windows?

Unlike Macs, [Windows](#) has no 256-color system palette. Colors are governed by the software that's in use. Thus, Netscape, Mosaic, or any other Web browser can handle 8-bit color in Windows differently.

In the case of Netscape, 216 colors are available to display images. These colors follow the "multiples of 51" rule; they are identical to 216 colors of the Mac system palette. Netscape refers to this set as the "color cube" and users have the option of controlling how colors from outside the cube are adapted. In Netscape 1.22, from the Options menu, select Preferences, then select Images & Security to display the two choices: Dither to Color Cube or Substitute Nearest Color in the Cube. Netscape 2.0 uses slightly different descriptions for these two options and adds a third Automatic (the default option in Netscape 2.0)

- **Dither.** Dot patterns are used to approximate colors not in the cube. As always, dithering results can range from acceptable to really ugly.
- **Substitute.** Netscape actually changes the colors in the images to force conformity with the color cube. The good news is that images load faster (since dithering does not need to be calculated) and no ugly dot patterns are introduced. The bad news is that color tones will shift.
- **Automatic.** An algorithm decides if colors are close enough to the color cube to be substituted for, or are too far and must be dithered.

Since there's no way to control how viewers have their preferences set, check images in each of these modes to determine if the results will be unacceptable.

Other browsers, such as Mosaic, manage 256-color images differently. For instance, on an old version of Mosaic for PC that I use, color substitution seems to be the only method available. The

only reliable way to know what's going to happen on different browsers under Windows is to test images and see what you get.

What looks good everywhere?

The rule of thumb for images that will be viewed in 256-color mode is to create them using the 216 colors of Netscape's color cube for Windows. Because these colors are also in the Mac system palette, you won't have problems with dithering or color shifts on the most popular platforms for the Web. Remember that these colors will use R, G, and B values that are multiples of the number 51.

These 216 colors provide reasonable flexibility if you can pick ones that you like. However, in many cases you do not have that freedom. For example, colors on Penn's official University Web site need to look like the traditional red and blue. A red with RGB values of 153,0,0 looks good and does not dither (153 is a multiple of 51). However, no shade of blue in the 216-color cube matches Penn's blue very well. A blue with RGB values of 0,0,128 dithers, but is not objectionable on Macs or Windows. This value was selected by trial and error viewing on both platforms.

It's particularly hard to find shades of gray that work well cross-platform. When limited to multiples of 51, you have only 6 shades to work with including black and white. Experiment with in-between shades to find one that won't look too bad on one platform or the other.

Computers that can display in 16-bit (65,536 colors) or 24-bit (16.7 million colors) color will not have problems with dithering. The rules above apply only to computers limited to 256 colors. However, there is another important difference between the way graphics display on Macs and Windows machines - gamma.

What is gamma?

Gamma refers to the non-linear relationship between the voltage applied to a CRT and the resulting brightness of the image. Different manufacturers have adopted different gamma values, which means that image brightness will vary between Macs, PCs, and other computers. In general, images will appear darker on PCs than on Macs; contrast in dark areas that is discernible on a Mac may be obscured on PCs. View images on both platforms whenever possible, and try to find brightness and contrast settings that compromise between the optimal settings for Macs and Windows.

The information in this article has been adapted from "I am Curious Yellow" (<http://www.upenn.edu/computing/group/dmp/technical/colors/curious.html>), a Web tutorial on color management issues. This site covers RGB and other color systems, dithering, gamma, image compression, and more. Sample images are provided to illustrate selected topics. Links to additional information provide the opportunity for more detailed study. Original artwork by BRADY AJAY (ajayb@wharton.upenn.edu). Used by permission.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

Speeding Up Your Webpage

*Reprinted, with permission, from the **Buffer** (Volume 31, Number 7/8 July/ August 1996), the newsjournal of computing at the [University of Denver](http://www.du.edu/~buffer/julaug96/speedweb.html) (DU). Bob Stocker (bstocker@du.edu), Director of Academic Computing at DU, is the author of the article. It is archived at <http://www.du.edu/~buffer/julaug96/speedweb.html>*

I had a nightmare last night. While net surfing, I clicked on a link to get the latest baseball scores. The browser icon became animated. Text flashing at the bottom of the screen indicated files were being delivered to my computer. I waited and waited while a huge graphic of a smiling baseball wearing a Colorado Rockies cap arrived.

The alarm went off before I could see the Rockies score on the second screen.

Perhaps it's just as well. The Rockies were on the road.

Width and Height

Fortunately, the page with the smiling baseball exists only in my nightmare.

However, you've probably seen pages like it. Perhaps, you even own one yourself. If you do, you can make life a lot easier for your visitors by adding WIDTH and HEIGHT attributes to your tags. *Here's an example using the popular "University of Denver" text image that has been showing up on many DU pages:*

```
< IMG SRC="http://www.du.edu/clipart/3du.jpg" WIDTH=300 HEIGHT=54 ALT="University of Denver" >
```

Adding the WIDTH and HEIGHT attributes does not speed up the process of downloading your Web page, but it does allow the browser to begin formatting your page before receiving all the information. Visitors can go to the second screen before the first screen is complete.

There are several convenient ways to get WIDTH and HEIGHT information for an image. If the image is already on the Web, look at it by going directly to its URL (Uniform Resource Locator) address with [Netscape](#).

For example, to look at the 3du.jpg image in the above example, enter <http://www.du.edu/clipart/3du.jpg> in Netscape's Location dialog box. Netscape displays the WIDTH and HEIGHT attributes of the image on the title bar at the top of the window.

Visiting Dr. HTML

If your browser does not have this convenient feature, you can have your page analyzed by Imagiware's Doctor HTML Web site at

<http://imagiware.com/RxHTML/>

If you provide Doctor HTML with the URL for your page, it will analyze your HTML (HyperText Markup Language), validate your hyperlinks, determine your image attributes, and provide a detailed technical criticism of your page. It's worth getting a check-up from DoctorHTML even if you know the WIDTH and HEIGHT of your smiling baseball image.



[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

HTML 3.2 and Beyond

Reprinted, with permission, from PENN PRINTOUT (Volume 13:3, October 1996). Judy Smith is the author of the article, which is archived at <http://www.upenn.edu/archive/v13/3/html32.html>

The easiest way to learn HTML is by example: Find a page you like, view the source, then adapt the tags for your purposes. It's the way of the Web. And it is a good way to begin. But sooner or later it's going to lead to trouble. Someone is going to flame your illegible "non-standard" pages. That's when you realize that pages that look great on your Web browser don't play well "cross-platform." Time to develop an understanding of HTML standards?

Pay attention to HTML 3.2 tags (if you want to understand the current set of constraints for cross-platform compatibility. All browsers should be able to handle HTML 3.2 tags, although text-based browsers like lynx still have trouble with table tags - especially when they are used to control page layout rather than to define tabular data structures. You need to understand this standard if you want to know what works where and why - whether you decide to play the standards game or not.

Yet it's table tags in combination with graphic elements that currently provide the only way to design pages that even approach the look of professional documents. The rigid separation between structure, the realm of HTML, and presentation, the realm of style sheets, never worked because the standards bodies couldn't agree on a style sheet standard that browser vendors could implement and that page designers could use.

But now, the style sheet specification is fairly well understood, Microsoft's [Internet Explorer](#) 3.0 uses it, [Netscape](#) promised to use it in Navigator 4.0, and site designers have begun to take a long hard look at the promise of style sheets: gaining precise typographical and graphical control over documents without losing cross-platform compatibility, but with the added benefit of improving document download time.

Although a style sheet war between Microsoft and Netscape seems immanent, if you're interested in future directions of HTML, look at the draft Cougar specification (the successor to HTML 3.2), but pay special attention to Cascading Style Sheets (CSS). And yes, the easiest way to learn style sheets is by example.

Drinking from the fountain

While documents describing basic style sheets are beginning to flood the Web, most sites have been awaiting the arrival of Netscape 4.0 before moving aggressively ahead. Here are a few interesting "how-to" documents.

- **Microsoft's A User's Guide to Style Sheets** (<http://www.microsoft.com/workshop/author/css/css-f.htm>).
- **Microsoft's Style Sheets: A Brief Overview for Designers** (<http://www.microsoft.com/workshop/design/des-gen/ss/css-des-f.htm>).
- **Microsoft Explorer's unsupported CSS features** (<http://www.shadow.net/~braden/nostyle/>).
- **Webmonkey's Leading and Margins and Fonts! Oh Boy!** (<http://www.webmonkey.com/html/96/34/index2a.html>).
- **Web Review's Between the Style Sheets** (<http://webreview.com/96/11/08/feature/index.html>).

Note: You'll need Internet Explorer (<http://www.microsoft.com>) to do anything other than view the

source code of the examples. Explorer 3.01 is available for Windows 95 and NT; Explorer 3.01b is available for Macintosh. You might also pick up Microsoft's free truetype Web fonts (<http://www.microsoft.com/truetype>) to view the effects of controlling font faces that are used in several of the examples.

The standards game

The standards documents at W3C (<http://www.w3.org>) can be slow going for the average page designer. If you want a short reference that clearly distinguishes the official tags from extensions, try Kevin Werbach's *Bare Bones Guide to HTML* (<http://werbach.com/barebones/barebone.html>).

- **W3C's statement of direction** (<http://www.w3.org/pub/WWW/MarkUp/Activity>) provides an overview of previous efforts, current projects, and future directions.
- **HTML 2.0 is the baseline standard** (RFC 1866 - <ftp://ds.internic.net/rfc/rfc1866.txt>) that all graphical and text-based browsers should support.
- **HTML 3.2 adds support for widely used features** such as tables, applets, text flow around images, and superscripts and subscripts. It also includes a few minor changes to HTML 2.0. The W3C's main HTML 3.2 page (<http://www.w3.org/pub/WWW/MarkUp/Wilbur/features.html>) includes links to a summary document and a working draft with all the details (<http://www.w3.org/pub/WWW/TR/WD-html32>). W3C recommended some time ago that all browsers begin implementing these features.
- **Cougar** (<http://www.w3.org/pub/WWW/MarkUp/Cougar/HTML.dtd>), the code name for the successor to HTML 3.2, introduces a modular approach to HTML standards development. Check the document type definition (DTD) for Cougar and the series of technical reports including W3C recommendations (indicating that the specification is ready for use), proposed recommendations (indicating that the specification is awaiting formal review), and working drafts (indicating that the specification is subject to frequent updates).
- **The style sheet working draft** (<http://www.w3.org/pub/WWW/TR/WD-css1>) contains the detailed specification, HTML3 (<http://www.w3.org/pub/WWW/TR/WD-style.html>) and Style Sheets explains how to use Style Sheets with HTML elements, examples and resources (<http://www.w3.org/pub/WWW/Style/>) are also available from W3C.
- **The World Wide Web Journal** (<http://www.w3.org/pub/WWW/Journal/>), published by O'Reilly Associates and the W3C, provides in-depth coverage of technological developments, including page authoring and design.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

Shift Key

By [Randy Milholland](#), Documentations Assistant (randy@unt.edu)



[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

Privacy on the Internet

Privacy is something we're going to be hearing more and more about, with regard to Internet usage. Below is a June 9, 1997 press release, from the Electronic Privacy Information Center (EPIC). EPIC is a non-profit, public interest research organization based in Washington, DC. - Ed.

The Electronic Privacy Information Center ([EPIC](#)) today [June 9] released a major report on consumer privacy and the Internet. "Surfer Beware: Personal Privacy and the Internet" is based on a review of the privacy practices of top Internet Web sites. The report examines the current state of privacy policies on the Internet and includes recommendations to protect online privacy. The release of the report precedes a week of hearings, to be held by the Federal Trade Commission, on consumer privacy and the Internet. EPIC will be participating in those proceedings.

EPIC reviewed 100 of the most frequently visited Web sites and checked whether sites collected personal information; had established privacy policies; made use of cookies; and allowed people to visit without disclosing their actual identity.

The survey found that few Web sites today have explicit privacy policies (only 17 of the sample) and none of the top 100 Web sites meet basic standards for privacy protection. However, anonymity continues to play an important role in online privacy, with many sites allowing users to access Web services without disclosing personal data. EPIC recommends in its report that sites continue to support anonymity while developing policies and practices to protect information privacy.

The report is available at <http://www.epic.org/reports/surfer-beware.html>.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

The Network Connection

By Michael W. Carroll, University of California at Berkeley
Boalt Hall School of Law***

*This column is a continuing feature of **Benchmarks** intended to present news and information on various aspects of wide area networks.*



Garbage In: Emerging Media And Regulation of Unsolicited Commercial Solicitations

"Spam," as unsolicited E-mail advertisements have come to be known, are another hot topic on the Internet these days. The spam controversy is related to other privacy issues, as advertisers frequently rely on personal information they have gleaned from other sources to find out your E-mail address. This guest article is a portion of a paper printed in the Berkeley Technology Law Journal, which is published by the University of California at Berkeley's Boalt Hall School of Law. The article below is from part III, section 2 a. of the paper. It is reproduced with permission. The entire article can be found at <http://server.berkeley.edu/BTLJ/articles/11-2/carroll.html> - Ed.

GOVERNMENT REGULATION OF UNSOLICITED ELECTRONIC JUNK MAIL

Private regulation alone will not be able to stop electronic junk mail from overwhelming or impeding the functioning of the emerging information network. Therefore, some form of government regulation will be necessary. Already, the federal government has begun to contemplate regulation of electronic junk mail on the Internet.^[141] This subsection briefly describes an argument that Congress already has banned electronic junk mail, and then--concluding that the argument is unpersuasive--considers the constitutional issues likely to arise if the government engages in more explicit regulation of electronic junk mail.

Has Congress Already Banned Spamming?

Arguably, the Telephone Consumer Protection Act of 1991 (TCPA)--by its ban on sending unsolicited advertisements to a "telephone facsimile machine"--already makes illegal the sending of electronic junk mail. This textual argument has some surface appeal. It could potentially take care of the whole spamming problem without any new enactments.

The TCPA makes it unlawful for any person within the United States "to use any telephone facsimile machine, computer or other device to send an unsolicited advertisement to a telephone facsimile machine." ^[142] Thus, the focus is on the receiving device; to violate the TCPA, a spammer using a computer must simply send an "unsolicited advertisement" to a "telephone facsimile machine." An "unsolicited advertisement" is broadly defined as "any material advertising the commercial availability or quality of any property, goods, or services which is transmitted to any person without that person's prior express invitation or permission."^[143] The TCPA defines a "telephone facsimile machine" as:

[E]quipment which has the capacity (A) to transcribe text or images, or both, from paper into an electronic signal and to transmit that signal over a regular telephone line, or (B) to transcribe text or

images (or both) from an electronic signal received over a regular telephone line onto paper.[144]

Relying on the text of the statute, one could argue that a spammer violates the law when he sends an unsolicited advertisement from his computer over regular telephone lines to another computer via the Internet. That other computer is "equipment which has the capacity" to take the electronic signal and transcribe it onto paper--anyone can print their email. Further support for this reading can be found in the [FCC](#) interpretation of the TCPA to mean that a "telephone facsimile machine" includes fax/modems attached to a computer.[145] The fax/modem is a device capable of receiving an electronic signal sent either as an image file (fax) or a text file (electronic mail).

In either case, the fax/modem makes it possible for the signal to be transcribed onto paper.

As appealing as this argument may be to those who wish to make spamming illegal, it presents a problem. If the government were to rely on this textual argument to apply the TCPA to spamming on the Internet, a court likely would find that application to violate the First Amendment. Most of the elements that persuaded the Ninth Circuit to uphold the ban as applied to conventional fax machines are not present in the context of junk mail on the Internet. [146]

In the fax context, the government persuaded the court that the ban was reasonably fitted to the government's interest in preventing unfair cost-shifting and preclusion of desired communications by unsolicited advertisements.[147] Neither of these harms are equally presented by unsolicited electronic mail.

There may be some cost-shifting for those who subscribe to commercial online services and who pay by the minute--these people pay for the time it takes to delete and/or download the junk mail. But many others have Internet access for which they pay a flat rate, which means that they incur no marginal cost in dollars and cents for the time it takes to throw out the spam.

Arguing that spam precludes other electronic mail messages is even more difficult. At present, the scale of the problem has not reached the level at which the network's electronic memory has been filled to capacity with electronic junk mail. Generally, electronic mail messages do not go undelivered because the addressee's box is overflowing with spam. The best argument for why message-preclusion is as big a problem with electronic junk mail as it is with fax solicitations is that in both cases what is precluded is timely receipt of a desired communication.

In the fax context, if a business does not receive a desired communication because junk faxes are tying up the line, that communication may eventually get through, but the business will have been precluded from receiving the message in a timely fashion. Similarly, with electronic junk mail, a business has not effectively "received" a desired communication until it is identified. If someone in the business has to scroll through and delete large amounts of electronic junk mail on a daily basis, that junk mail is precluding the business from effectively receiving its desired communications in a timely fashion.

This argument is problematic because it proposes a more subjective standard for preclusion. In the fax context, an unsolicited advertisement precludes a desired communication from reaching the recipient's "premises" at the time the fax is sent because the two machines cannot connect. In the electronic mail context, a desired communication reaches the recipient's "premises" to the same extent that all other electronic mail messages do because the two machines, via the network, connect.

To withstand intermediate scrutiny, the government must assert a substantial interest in imposing the regulation, and the regulation must alleviate a real harm.[148] The government interest in avoiding message preclusion is probably in preventing desired communications from being precluded from reaching the recipient's premises. This would be the case because the government risks its claim to a "substantial" interest in preventing message-preclusion if that interest is defined in the vague terms of preventing only the "untimely receipt" of desired communications. If preventing preclusion from

the premises is the government interest, then that interest is present in the ban on unsolicited faxes but not present if the ban is applied to electronic junk mail. Thus, governments probably cannot enforce the TCPA as a ban on electronic junk mail.[149] The government may be able to ban electronic junk mail, but specific findings and potentially a different rationale may be necessary for such a ban to be constitutionally permissible.

[141]. For example, the Federal Trade Commission devoted one of a series of hearings on regulating unfair business practices on the Internet to the junk mail problem. November 20, 1995. In addition, the Clinton Administration has advised providers of telecommunications services to get consumers' permission before using or selling information about their customers. See Regulators/Regulations: Recommendations for Telecom Privacy, DOT.COM, Nov. 1, 1995 (citing a Commerce Department report providing "recommendations" to the industry). Should the industry ignore the Administration's advice, formal regulations may follow. Id.

[142]. 47 U.S.C. section 227(b)(1)(C) (emphasis added).

[143]. 47 U.S.C. section 227(a)(4).

[144]. 47 U.S.C. section 227(a)(2).

[145]. Memorandum Opinion and Order, *supra* note 58, at 12405-06.

[146]. See *Destination Ventures, Ltd. v. FCC*, 46 F.3d 54 (9th Cir. 1995) (relying on district court's use of legislative history and fact that junk fax universally involves unfair cost-shifting to uphold TCPA's ban on unsolicited fax advertising), *aff'd* 844 F. Supp. 632 (D. Or. 1994).

[147]. Id.

[148]. *Edenfield v. Fane*, 507 U.S. 761, 770 (1993).

[149.] See Michael D. McConathy, *Destination Ventures, Ltd. v. FCC and Moser v. FCC.: How Much Should the Telephone Consumer Protection Act Restrict Your Phone, Fax and Computer?*, 26 GOLDEN GATE U. L. REV. 153, 180-81 (1996) (implicitly concluding that TCPA does not ban solicitation by electronic mail).

[*]. (c) 1996 Michael W. Carroll, J.D., 1996, Georgetown University Law Center; A.B., 1986, University of Chicago. I would like to thank Susan Low Bloch, Richard Chused, Ron Friedmann and the editors of the Berkeley Technology Law Journal for their substantive comments and suggestions. Thanks also go to Kristy, Madeleine, Vivian, William and Roberta Carroll for their patience and support.

[***]. An earlier version of this article won first prize in the 1996 Berkeley Technology Law Journal Comment Competition.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

List of the Month

Each month we will highlight one Internet, USENET, Special Interest Group (SIG), or similar mailing list. This month's list is a group of lists...

Spam-Ad

Spam-Ad is an anti-spamming Mailing List. To subscribe, send mail to:
LISTSERV@INTERNET.COM In the message body type: **SUBSCRIBE SPAMAD**
YOUR_REAL_NAME, YOUR_AFFILIATION_IF_ANY

SPAM-L

Another anti-spamming mailing list. To subscribe, send mail to:
LISTSERV@PEACH.EASE.LSOFT.COM In the message body type: **SUBSCRIBE SPAM-L**
YOUR_REAL_NAME

news.admin.net-abuse.misc

An anti-spamming NEWSGROUP.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible.
You can send mail to the following address: www@unt.edu

Dealing With Junk E-Mail

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

The "[Network Connection](#)" article in this issue provides a pretty good picture of where we are, legally, with regard to unsolicited electronic mail. If you read the article you will see that we seem to be on shaky ground in terms of our right prohibiting it, although things may change in the future. In the meantime however, how do you deal with all that spam?

The April 3 issue of *The Internet Tour Bus* (< a href="http://www.TOURBUS.Com">www.TOURBUS.Com) printed an edited version of an article ("How to Combat Bulk Unsolicited E-mail") by Adam Boettinger, moderator for the [I-Advertising Digest](#).

How do they get those addresses?

According to Boettinger, there are five ways that bulk emailers get your address in the first place:

1. E-mail stripper programs - used to "strip" E-mail addresses from classified ad sites, bulletin boards, online discussion groups and/or Web sites. They compile the addresses into a list, weed out the duplicates and then send out ads to thousands of people.
2. Newsgroup/Discussion Group "trolling" - another method used to obtain your E-mail address or mail you an advertisement is simply to respond to your ad or message you post to a newsgroup.
3. E-mail capture devices - buttons that can be inserted in any Web site. Clicking on one of these buttons will send your E-mail address directly to the Web site owner. If you have your browser [set properly](#), you would be warned before your address is sent to the site owner.
4. Surfing the Web - Many advertisers simply use search engines to hunt for sites similar to their target market and send press releases to the Webmasters of sites they visit.
5. Commercial Bulk E-mail services - One of the easiest ways to obtain an E-mail list is to buy one that someone else has compiled. Many companies on the net will sell lists targeted to a specific group, or even easier still - they'll do the mailing for you.

Reducing the Number of Unsolicited E-mail Messages

The thesis of Boettinger's article is that there are ways to reduce the number of unsolicited E-mail messages you receive each day. He quotes several "Anti-spam Experts" and then offers the solution that has worked for him, filtering. If your E-mail program has the ability to filter incoming mail, you can use it to look at the headers, subject line, or any text in the body. Following is his description of the filtering process:

Say I get email from CyberPromotions, and they use the domain "spam.com" in their email address. All I do is create a filter that looks for @spam.com anywhere in the headers of any incoming email message I receive, and transfers it to a special "Spam" folder that I have created just for this type of message.

I do not have it transferred to the trash, because occasionally a legitimate message slips through. I check my spam folder once every few days to see if any legitimate messages slipped through.

If you'd like to learn how to filter your incoming email, I have put up instructions and a list of the domains that I filter for Spam at: <http://www.exposure-usa.com/email/spam.html>

Anti-spam Resources

Adam Boettinger also provides a handy list of places to learn more about spam and how to combat it. Following is the list that was included in TOURBUS.

- **JunkBusters** (<http://www.junkbusters.com/>) - A site that provides an outline of how to handle junk E-mail. They also provide a fine notice "to senders of uninvited E-mail solicitations" which can be published at one's Web site and/or used as a response to junk E-mail.
- **Spam Hater** (<http://www.compulink.co.uk/~net-services/spam/>) - Free software for Windows 3.x & Win 95. Analyze junk E-mail to find appropriate addresses to send a prepared response to.
- **Win95 Mail Utilities and Addons** (<http://www.windows95.com/apps/mailutils.html>)
- **Filtering mail FAQ for Pine, Elm and UNIX accounts** (<http://www.cis.ohio-state.edu/hypertext/faq/usenet/mail/filtering-faq/faq.html>)
- **Mail Filtering Resources** (<http://www.glue.umd.edu/enee/medlab/filter/filter.html>)
- **E-Filter Software** (<http://catalog.com/tsw/efilter/>)
- **Get that Spammer Software** (<http://kryten.eng.monash.edu.au/gspam.html>)
- **Junk Email remover** (<http://www.fishnet.net/~seddigh/>)
- **Register to stop receiving junk E-mail** (supposedly):
 - <http://kenjen.com/nospam/>
 - <http://www.islandnet.com/~cvcprod/abcmall/email.html>
 - <http://www.directnet.com/~spiegel/>
 - <http://pages.ripco.com:8080/~glr/nojunk.html>
 - <http://drsvcs.com/nospam/>
- **Anti-Spamming Fax Law** (<http://www.ca-probate.com/faxlaw.htm>)
- **Netizens against gratuitous spamming** (<http://axxis.com/~ian/nags/index.html>)
- **Death to Spam** (<http://www.mindworkshop.com/alchemy/nospam.html>)
- **Outlaw Junk Mail now** (<http://www.public.asu.edu/~dtopping/ojen.html>)
- **Usenet sources to fight spamming** (<http://www.mindspring.com/~mdpas/research/intro.html>)
- **NetAbuse FAQ** (<http://www.cybernothing.org/faqs/net-abuse-faq.html>)
- **Anti-Umail FAQ** (<http://www.accessnt.com.au/faqs/spam.htm>)
- **Blacklist of Internet Advertisers** (<http://www.cco.caltech.edu/~cbrown/BL/>)
- **Internet Scambusters** (<http://www2.scambusters.com/scambusters/>)
- **Russ-Smith's Telemarketing and E-Mail Marketing Consumer Information Source** (<http://www.russ-smith.com/>)
- **To complain about unsolicited E-mail sent from ALO accounts**, write Tosemail1@aol.com OR abuse@aol.com

1 I-Advertising Digest is a moderated discussion on Internet Advertising, Marketing and Commerce (<http://www.exposure-usa.com/i-advertising>). The full text or the article, is available at <http://www.exposure-usa.com/i-advertising/sr.html>

2 I assume Mr. Boettinger is talking about **cookies** here. Cookies are sort of like personal tags, assigned to you as you browse the World Wide Web. They are used for many legitimate reasons, but can also - in some instances - capture more information (your name, E-mail address) than you would feel comfortable giving out. For more information about cookies, see <http://www.cookiecentral.com/> To find out what your browser is telling other sites about you, go to the JunkBusters site (<http://www.junkbusters.com/ht/en/cookies.html>) and "try their test." You can "turn off" cookies in most Web browsers, but that can be inconvenient because you are constantly asked if you will accept

them - which most people do anyway.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon us as soon as possible.
You can send mail to the following address: www@unt.edu

Supreme Court to Rule in the CDA Case

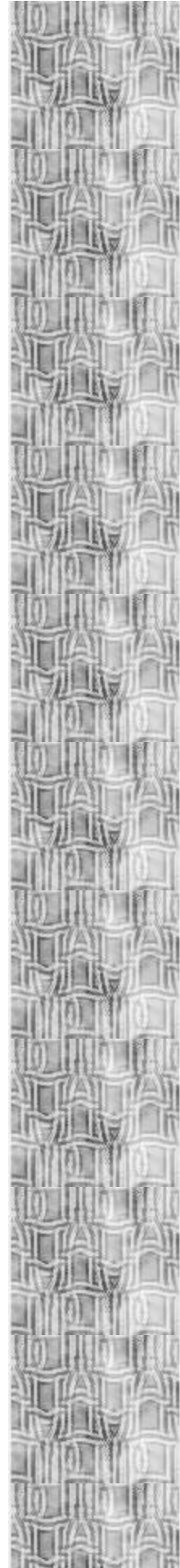
The Supreme Court is set to rule "any day now" on the Communications Decency Act. The Citizen's Internet Empowerment Coalition (CIEC) is keeping close tabs on the developments in this case. Check their Web page (<http://www.ciec.org/>) for more information on this important topic.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu



Things are Changing

By [Claudia Lynch](#), *Benchmarks Editor* (lynch@unt.edu)

New area code, new address

Things are changing around here at a rapid pace. First of all, Denton, including the University, has a new area code. Now you must use **940** instead of 817 when calling the University long distance. In a nonrelated but timely coincidence, the University has also acquired new post office boxes. This acquisition has caused everyone to have to get new box numbers. The new box number for the Computing Center is **305398**, thus changing our complete zip code to **76203-5398**

New terminology

We are changing the way we talk about our services in the [Computing Center](#). Instead of discussing people getting "Jove IDs" when they're really just wanting to use the Internet, we will begin talking (and writing) about "Internet Accounts" instead. This may seem awkward at first, but please bear with us. We believe that, in the long run, redefining these services to reflect more accurately their true usage will help everyone.

ACS Offices Move

Several people in Academic Computing Services have moved. The World Wide Web folks (**Mark Wilcox** and **Sharon Marek**) have moved over to Marquis Hall and share a suite of offices with the Distributed Learning Team (**Jenny Jopling** and **Joey Hoffmann**) who also moved, but just down the hall. They have all maintained their old phone numbers but their offices are now in Marquis 218 and 219.

Dianna Laakso, a former Computing Center employee who left for a two year stint at E-Systems, is back as our UNIX System Administrator (for Jove) and is occupying Mark Wilcox's former office in ISB 122. More office switching may occur in the future.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

Statistical Computing Tips

By [Rich Herrington](#), ACS Statistical Consultant (richherr@unt.edu)

Sampling with Replacement in SPSS: Creating Bootstrap Confidence Intervals for the Correlation Coefficient

Resampling based approaches to estimating a statistic and determining the properties of the estimator are becoming increasingly identified with what is sometimes referred to as "modern methods" of data analysis (Fox and Long, 1990). Resampling, using subsamples of an original sample, allows one to incorporate all of the original characteristics of the observed empirical distribution into the significance estimates and confidence intervals for the statistic under consideration. Efron (1979) proposed a resampling plan, which he called the "bootstrap." The bootstrap technique has received considerable attention over the years since its popularization by Efron (an overview of these developments can be found in Efron and Tibshirani, 1993). In a bootstrap resampling scheme, the initial sample of observations is treated as if they constitute the population under study. By randomly resampling with replacement from this proxy population, the sampling error of the original population can be estimated and confidence intervals constructed for most statistics that are being evaluated.

For the present illustrative example, 11 pairs of observations constitute the sample/population. From these 11 pairs of data, sampling with replacement is used to create a new sample of size 11 (a bootstrap sample). In this new sample, the data pair (.18, .20) might appear only once or could appear multiple times in the sample of 11 data pairs. A Pearson's correlation coefficient is calculated for each of these bootstrap samples. The standard deviation of these bootstrap correlations is calculated thus giving an estimate of the standard error of the correlation coefficient. The calculation of the 2.5th and 97.5th percentiles of the distribution of the bootstrap correlations will give an estimate of the 95th confidence intervals for the correlation coefficient (percentile method). A bias adjustment for the percentile method (bias corrected percentile method) is discussed in Efron and Tibshirani (1993); here, we discuss only the unadjusted percentile method.

Thompson (1993) discusses using the bootstrap methodology in conjunction with traditional statistical significance testing to explore result replicability. Thompson's data set (page 370) is used as our example:

Data Set (From Thompson, 1993):

	Y	X
1.00	.18	.20
2.00	.54	1.88
3.00	-.49	-.76
4.00	..92	.42
5.00	.22	.32
6.00	.75	-.56
7.00	.66	1.55
8.00	-2.65	-1.21

9.00	-.51	-.66
10.00	.47	-.96
11.00	-.09	-.21

This data set produces the following statistics:

Normal Theory Significance and CI:

$r = 0.56, p = .073, 95\% \text{ CI} = (-0.06, .868)$

The SPSS syntax included here uses the SPSS INPUT PROGRAM to generate 1000 samples (n=11 per sample) of randomly sampled case id's (sampling with replacement). The MATCH FILES procedure is used to copy data from the original file (the x,y pairs) into the working data file.

```
**** Bootstrap Confidence Intervals for
**** the Correlation Coefficient
**** create 1000 bootstrap samples of size
**** n=11, use sampling with replacement
input program.
loop samp=1 to 1000.
+ loop #i=1 to 11.
+   compute id=trunc(uniform(11))+1.
+   end case.
+ end loop.
+ leave samp.
end loop.
end file.
end input program.
execute.
sort cases by id.
match files file=* /table='a:\thompson.sav' /by id.
sort cases by samp.
split file by samp.
execute.

**** calculate a correlation coefficient for each bootstrap sample
CORRELATIONS
/VARIABLES=y x
/PRINT=TWOTAIL SIG
/MISSING=PAIRWISE .
```

Once the correlation output has been saved to an output text file, one removes the sample ids, correlation values, and pvalues from the output file of the 1000 bootstrap samples:

```
SET WIDTH=80.
FILE TYPE NESTED FILE='a:\corr.out' RECORD=1-80 (A).
RECORD TYPE SAMP:'.
DATA LIST / sample 9-16.
RECORD TYPE X'.
DATA LIST RECORDS=3 / corr 13-18 // pvalue 16-19 .
END FILE TYPE.
FORMATS corr (F8.2) pvalue (F8.2) sample (F8.2) .
execute.
```

Next, the lower 2.5th and upper 97.5th percentiles of the empirical distribution of correlation coefficients are calculated:

```
FREQUENCIES VARIABLES=corr
/FORMAT=NOTABLE
/PERCENTILES= 2.5 97.5
/STATISTICS=STDDEV MEAN.
CORR
Mean                .573          Std dev          .162

Percentile          Value          Percentile          Value
2.50                 .179          97.50              .828

Valid cases          1000          Missing cases          0
```

Our bootstrap 95th percentiles are (.179, .828). Since these intervals do not include 0, this is taken to

be a rejection of the null hypothesis, that the correlation coefficient is zero in the population Power estimation (Cohen, 1988) with the bootstrap is accomplished by counting the proportion of redrawn samples that lead to a statistically significant estimator (for a given alpha level):

```
**** Probability to reject an assumed false
**** null hypothesis (simulated power).
do if pvalue<=.05).
compute count=1.
else if pvalue>(.05).
compute count=0.
end if.
execute.
FREQUENCIES
  VARIABLES=count.
COUNT
```

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	.00	523	52.3	52.3	52.3
	1.00	477	47.7	47.7	100.0
	-	-	-	-	-
Valid cases 1000	Total	1000	100.0	100.0	
	Missing cases		0		

Power estimate based on distributional assumptions (Using Cohen's power tables) = .460
Resampling based power estimate = .477

References:

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Lawrence Erlbaum Associates, Hillsdale, New Jersey.

Efron, B & Tibshirani, R.J. (1993). *An Introduction to the Bootstrap*. Chapman and Hall, New York.

Fox, J & Long, J.S. (1990). *Modern Methods of Data Analysis*. Sage Publications, Newbury, Park, CA.

Thompson, B. (1993). *The Use of Statistical Significance Tests in Research: Bootstrap and Other Alternatives*. Journal of Experimental Education, 61(4), 361-377.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

Information Resources Council News

**Minutes provided by Sue Ellen
Richey, Recording Secretary**



IRC Regular Voting Members: Philip Turner, Associate Vice President of Academic Affairs for Distance Education and Dean of the School of Library and Information Resources (Chair); Jenny Jopling, Instruction Program Group; Dennis Mueller, Research Program Group; Don Grose, Libraries; Walter Bowen, Academic Administration; John Todd, Faculty Senate; Kathleen Swigger, College of Arts and Sciences; Bill Buntain, Communications Program Group; Cengiz Capan, College of Business; Joneel Harris, Administrative Program Group; Paul Dworak, College of Music; David Hartman, School of Community Services; Paul Schlieve, College of Education; Chuck Fuller, Fiscal Affairs; Carolyn Cunningham, Student Affairs; Steve Oeffner, UNTHSC Information Technology Services; Steve Miller, Human Resources; Clare Popejoy, Graduate Student Council; Steve Grant, UNT Health Science Center; Allen Livingston, Student Association; Russ Pensyl, School of Visual Arts; Virginia Wheelless, Chancellor. IRC Ex-officio Nonvoting Members: Richard Harris, Computing Center; Coy Hoggard, Computing Center; Maurice Leatherbury, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Rondel Stevens, Telecommunications; Sue Ellen Richey, Computing Center (Recording Secretary)

March 11, 1997 (Unofficial Meeting)

Integrated Directory Service

Bill Buntain distributed copies of a Proposal to Develop a Plan for an Integrated Directory Service, which he asked to have on the agenda for the April IRC meeting.

Classroom Renovation

Jenny Jopling reported having spoken with Linda Sheldon of the Physical Plant about proceeding with the classroom renovation project and said that Linda still needs to have someone tell her where to put outlets and which windows to cover, etc. Dr. Brownell said that he has asked Dr. David Kesterson to work with the Physical Plant on this project. It was suggested that since the Auditorium Building will be the first one to have classrooms improved, the English department head should be asked to select three faculty members who teach their courses in that building to work with Linda in making these decisions. There was discussion about doing a survey of faculty members to determine what features they believe are important to have in classrooms.

Evidently there are already plans underway to conduct a physical inventory of classrooms to determine how many chairs are in each room as well as categorizing the rooms according to quality. It was suggested that as long as there is going to be a survey, it should encompass everything that should be known about a classroom in order to schedule it for the appropriate faculty use. It was agreed that time shouldn't be wasted conducting three different surveys by three different groups of

people. Jenny also suggested that while they were surveying rooms, they could make a note of where current electrical outlets and data jacks are located.

Dr. Turner asked if there should be restrictions placed on classrooms that are equipped with high-end technology so that they will only be used by faculty who will be making use of that technology. It was agreed that people who would not need the high-end technology should not be scheduled into rooms that are so equipped. It was noted that the technology is in place for appropriately scheduling classes based on the level of technology in classrooms. It was mentioned that keeping the scheduling codes current is a problem. Joneel pointed out that only 110 classrooms are coded for scheduling, because 220 classrooms are scheduled by the units having responsibility for them.

In the discussion, Paul Schlieve commented that he believes that even 220 classrooms should be maintained at a base-line level by central funding, and that the specialized items for those rooms should be funded by departmental funds.

Team Web

Maurice also reported that Team Web hopes to turn over the new design of the UNT Web page and have it up and running within the month.

Maurice reported that 15 proposals for Teaching with Technology grants have been submitted and are under review. He also announced that on May 12-15, 1997 there will be a Teaching with Technology workshop for all faculty.

Standards & Cooperation Program Group

It was announced that the Standards & Cooperation Program Group proposal for a campus-wide faculty and staff workstation upgrade was approved by the IR Steering Committee, with a request for Paul Dworak to work with Phil Diebel on a funding proposal.

Dennis Mueller reported that 14 proposals have been submitted for Innovative Projects grants totaling 1.1 million dollars; since there is only \$100,000 available, the review committee is having a difficult time making the final approval decisions.

Administrative Program Group

Joneel Harris reported that the Administrative Program Group has met with Dr. Turner about distributed learning at UNT. Joneel said she met with the Dean of the College of Business of the Univ. of Texas at Brownsville, who is on the University of Texas System committee to develop a University of Texas virtual university. Joneel discussed some of the administrative issues with her and apparently UT is forging ahead and planning to work out the problems as they go.

2000 issues

In addition, Joneel attended a presentation by Dr. Kappleman of the BCIS Department on Year 2000 issues. Joneel asked Coy Hoggard to speak to that issue. Coy said that the Year 2000 has raised some serious challenges, however, his programming teams believe they are prepared to make the operating systems and language upgrades that will be required. They have been considering, for some time, the replacement of the Student Information System; however, they do not believe they will be able to replace it in time to avoid having to make changes necessary for the Year 2000. Coy has assigned Earl Jackson, who was the Admissions Team, to coordinate the Year 2000 solutions within SIMS. It is hoped to have the Admissions module converted by this Fall with the other modules converted in time to have them run through one complete cycle before the change of century occurs.

Joneel said that, regarding the coding of classrooms, they would like to be able to prioritize the criteria for matching teaching needs to available classrooms, and work on updating the coding when time permits.

Richard Harris noted that possible problems at the PC level with the Year 2000 are being considered by the Distributed Computing Support Team.

Since no official business could be conducted without a quorum, and there being no other items for discussion, the meeting was adjourned at 3:00 p.m.

April 15, 1997 (Unofficial Meeting)

New Student Association Representative

The Chair recognized and welcomed the new Student Association representative, Allen Livingston, who is a PH.D student in the School of Library & Information Sciences.

Quorum Difficulties

In view of recent difficulties in having a quorum at IRC meetings, the Chair announced that he would review the attendance of this year's meetings and arrange for new members to replace those who are not attending regularly. There was no quorum at this meeting, therefore, minutes of previous meetings were not approved.

Video Conferencing

Dr. Turner distributed a diagram of the UNT Video Conferencing Network. He explained that he recently received the capital outlay budget for this network. The two goals of the network are:

1. as videoconferencing is built up at UNT, it will be done in such a way that it facilitates the sharing of the most expensive pieces, and can be scalable. The model represents high-end teaching classrooms that are distance education-capable. Ninety percent of the time the rooms will be used for on-campus teaching, but can be used for videoconferencing when needed. The network will be connected to TTVN, Public Switched Network through ISDN, Health Science Center. Anything that these networks connect to UNT will be able to connect to, and vice versa;
2. will possibly connect to Dallas Community College (making Dallas LaCroix Technology Center a UNT site), and possibly PDI, as well as Dallas Education Center. UNT will also be connected to TWU thus enabling UNT to connect to anything TWU connects to.

The power of the system is that it is scalable, with no limits to the number of connections. The time frame for the network to be operable is Fall, 1997, with Spring 98 semester being the first time it will be available for classes. Turner stated that UNT has received gifts from VTEL and from Codec to make this a very good deal for UNT. The first sites at UNT will be the video-conference room in Chilton Hall, ISB 201 and 204, College of Education, and College of Music.

Dr. Turner stated that this network design is the best in Texas a quality, state-of-the-art design. The important issue now is how the network is operated, and who UNT connects to. Discussion followed.

There will be a distributed learning team that will provide support to faculty. Joneel Harris mentioned that the large classroom in the new Student Learning Center should be considered for hook-up to the video-conferencing network. Turner said that any room that is currently hooked up to the broadband

network can be hooked up to two-way video.

Strategic Planning Committee

Richard Harris reported that at the last Strategic Planning Committee meeting members gave feedback to Susan Pierce on security issues. Jenny Jopling pointed out that the remaining unfunded action items from the Strategic Plan were prioritized, with the classrooms remaining a top priority. Dennis Mueller interjected that at the Research Program Group meeting, it was recommended that another of the action items, programming support for college and departmental functions, be moved to High priority. Richard said he would take the RPG's recommendation back to the SPC.

Distributed Support Management Team

Maurice Leatherbury reported that the Distributed Support Management Team meets regularly. Jim Curry is chair of a sub-committee that is looking at "call-tracking and help desk" software packages. There are many products to evaluate, so a decision on that will be a long time in coming. It is hoped that a software package that is used by all distributed support areas will make trouble call resolution much more efficient. Maurice said he has taken on chairmanship of a subcommittee that will look at standardization of desktop applications, with their first issue being to look at file format standards common to the most frequently-used software applications to facilitate sharing of files via E-mail, etc.

Team Web

Maurice also reported that Team Web enabled the roll-out of UNT's new Home Page Monday, April 7th and they are working out a few problems. The committee has also been working on a draft of Web Publishing guidelines which they hope to bring to the next IRC meeting.

Paul Schlieve asked if progress has been made on making mainframe data on student records, open class sections, etc., accessible to faculty across the Web. Joneel responded by saying that is an action item in the Strategic Plan that needs ownership to make it happen. Joneel said they are close to bringing ASSIST into production on the Web. Because there is a credit-card transaction in that, they are facing some security issues. They will proceed with testing during Spring registration, and again during Summer I.

Communications Program Group

Paul Schlieve reported that the Communications Program Group has been collaborating with Bill on the Directory Services project. Philip Baczewski added that they will be dealing with placement of students on the NDS tree, which has implications for the enterprise-wide directory system. They have developed a set of specifications for an enterprise-wide directory service used primarily to establish an electronic identity for any individual on campus. Part of those specifications have been implemented allowing students to apply for access on the UNIX system. What is lacking is a central directory component that will act as a central repository for electronic identification.

Instruction Program Group

Jenny Jopling reported for the Instruction Program Group that the group has met and discussed classroom upgrades, and how to accomplish a room survey in conjunction with the Provost's survey. It was reported that the previously allotted \$29,500 is currently on hold pending receipt of further information on what improvements are needed in classrooms. Dr. Turner suggested that the presenting group needs to take one further step after making a recommendation, and that is to follow

up to see that things get done, thereby building accountability into IRC recommendations. Discussion continued. The Chair urged Jenny to try and pull this all together so that one survey is made in which all pertinent information is collected, then follow through with Linda Sheldon when the information finally reaches her.

Dennis Mueller reported that at the last Research Program Group meeting, they discussed the 14 proposals that had been submitted and the specific ones that were recommended to be funded. He suggested that because of the low amount of money allocated for this program, there were more competitive proposals submitted, rather than cooperative ones. The RPG would like to request an increase in the allocation for next year, \$600,000 total, with half of that being used to fund proposals for advanced technological upgrades of classrooms. Dennis added that he would like to see the allocation of funds made in October 1997. Dennis reported that the funded projects are:

1. Computerization of Introductory Chemistry Labs (\$40,000);
2. Recapturing the Element of Fun in Education Contributive/Cooperative Learning via Multi-user Realtime Distributed Multimedia Educating Environments - Materials Science, Computer Science and Art joint proposal (\$20,000);
3. Multi-media equipment for department of Radio/TV/Film (\$40,000); and
4. College of Business, in conjunction with the Teaching with Technology Grant, to integrate Business curriculum in the Business environment classroom (\$30,000).

Distributed Learning

Dr. Turner commented that Jenny Jopling has developed a Web site for distributed learning at UNT (www.unt.edu/dlearn) where abstracts for these funded projects could be posted.

Teaching with Technology Grants

Maurice Leatherbury announced that Teaching with Technology grant recommendations have been made to the Provost, approved, and funds awarded. There were 15 proposals, out of which 9 were funded. Not all of the money allocated was awarded, so the remaining amount was given to the Innovative Project proposal for the College of Business classroom project.

Administrative Program Group

Joneel Harris reported that the Administrative Program Group has not met, but that they are following up on their Strategic Plan action items. As an information item, Joneel stated that two large laser printers that have been provided by the Computing Center to meet centralized printing needs are about to be replaced, because they have become obsolete and will not be supported after this year. She said that she welcomed input on this situation from members.

Campus-wide PC Upgrade Plan

The Chair announced that the Provost has signed the recommendation from the Standards & Cooperation Program Group regarding the campus-wide pc upgrade plan. Paul Dworak is working with Phil Diebel, V.P. Finance & Business Affairs, on procedural issues.

Internet Services

Mike Maner announced that the Computing Center has made some changes to the campus connection to the internet through negotiations with D.I.R. Following those changes, the contract was turned over to the General Services Commission, and UNT has experienced severe performance problems,

and routers have been heavily loaded. Mike understands that, at some point, GTE plans to move their installation to UTD. This means UNT will have to negotiate with someone else. This will definitely affect premium dial-ups. At a minimum, four T1's will have to be moved. He warned members to expect some problems.

May 13, 1997

Help Desk Software

Richard Harris reported that a DCSMT subcommittee, headed by Jim Curry, is working on selecting a help-desk software package. They have narrowed the selection down to one or two packages which will then be considered against an in-house program. This will be a program that will be used university-wide by distributed support groups to manage trouble calls. In addition, Maurice is chairing a sub-committee that is dealing with the issue of a standard word processing, spreadsheet, and database formats that can be interchanged among common application packages. Currently, there is an incompatibility between the latest versions of Microsoft Word and WordPerfect.

Standards & Cooperation Program Group

Paul Dworak reported for the Standards & Cooperation Program Group that when Paul Diebel reviewed the recommendation for the workstation upgrade plan, Mr. Diebel felt that the process was confusing. The committee is drafting a document which describes the process in detail and includes sample spreadsheets. In essence they created a calendar that begins in the fall of each fiscal year, when department heads would project ahead to include new needs. With that information, Jim Curry will distribute to department heads their inventory and a recommendation of what should be upgraded or replaced. The department would review the recommendation, make appropriate changes, and request budgets to accommodate the upgrades and acquisitions. The Program Group is nearly ready to show the process document to Mr. Diebel. The next issue will be questions raised by department heads which will bring the S&C Committee into the process again to refine and clarify the plan.

In addition, the S&C Program Group began looking at the Supported Computing Items List (SCIL) and its correlating policy. The first change was to the name of the list; it will now be titled Recommended Computing Items List, and its contents determined by the Distributed Computing Support Management Team based on user needs. The role of the S&C Program Group will be to review the impact of DCSMT's recommendations and hear any objections and comments from users, reporting on these to the IRC. It was pointed out that the spirit of the Recommended Computing Items List is parallel to the old SCIL.

ISDN, Directory Services

The Chair asked Mike Maner if ISDN is ready to sell. Mike replied that the Bookstore may not be ready to sell it yet, but they do have a few users. The subscription rate will be the same as premium service, for one line; however, additional pieces are necessary to make ISDN work. Richard Harris reminded the group that the Communications Program Group has presented a proposal for a project to develop a plan for an integrated directory service. The proposal was tabled at the last IRC meeting. Richard asked the group to consider that proposal today. The recommendation was that:

"The Computing Center be charged with developing a project plan for implementing a unified directory service to be used to populate various electronic systems, including the University's electronic messaging systems, and present this plan to the IRC general meeting in the month following the adoption of this proposal; and

The Enterprise-wide User-ID (EUID) initiative: Design Specifications prepared by Academic Computing Services be endorsed by the IRC as a basis for assigning electronic identities (i.e., User IDs) for use in populating such a directory service."

It was suggested that the proposal be changed to state that the Computing Center take the plan to the Communications Program Group, rather than to the IRC, and delete the time constraint. A motion was passed to that effect.

Internet Access

There was some discussion about the problems recently encountered in internet access, as well as the changes that have been made to improve the reliability. Richard Harris stated that D.I.R. is working on a long-term re-engineered solution to recent problems. He explained that the Computing Center was able to work around the problems by setting up a more direct connection.

Mike Maner explained the current configuration of the Internet set-up and diagrammed it for the group. He stated that the General Services Commission has bids out and is in the process of awarding contracts to build an installation that will be an MAE that belongs to the GSC. There will be one in Houston, Austin and Dallas. The one in Dallas will be located at UT Dallas. UNT will be swinging its two T1's over to that installation. There is no time line for the completion of this, but it is hoped to have it completed in two months. Richard mentioned that this project is one of the Computing Center's highest priorities.

In further discussion, Paul Dworak reported some slow-down problems on the university's Intranet as well. Mike commented that problems aren't always attributable to the network, but in some cases have been due to wiring.

Instruction Program Group

Neal Brand reported for the Instruction Program Group that the committee has met with David Kesterson, Rollie Schaffer and Fred Pole to discuss the classroom survey that Kesterson is doing. The committee made some additions to his survey and hopefully by early summer the committee will have some results from it on which to base a minimum classroom standard proposal.

Research Program Group

Dennis Mueller reported for the Research Program Group that they had met and discussed the action items regarding programming support for college and department functions, from the Strategic Plan. The group agreed that it is essential that this strategy (8.4) be moved from a low to a high priority. He shared an example of the needs in this area; that being the Sponsored Projects Office having to submit all future proposals for federal grants electronically. That office is hoping to buy a software product that will provide the vehicle for these submissions, but even the commercial product will need tweaking for their specific purposes, as well as technical support on site for a while. Currently, there is no resource for this type of assistance for administrative or academic offices.

Sponsored Projects Office

There was some discussion about the Sponsored Projects Office needs. There was consensus that the IRC should not approve or disapprove how Sponsored Projects handles their needs, but that the IRC could and should recommend that addressing this issue needs to be a high priority. Paul Dworak moved that the IRC support the needs of any university department in being able to communicate electronically with federal and government agencies for presentation and management of grant proposals. Discussion continued, and following that, the motion passed.

[Philip Turner turned over Chairmanship of the meeting to Richard Harris, since he had to leave early to speak at the Teaching with Technology Workshop.]

Richard Harris stated that he had put a request in his budget for a distributed programming team that could handle this sort of programming need. He explained that the current programming teams in the Computing Center are user-driven (specifically, Vice President-driven). The teams are organized around the V-P areas to avoid conflicts between vice presidents. There are heavy demands placed on those teams because of mandates at the state and federal levels.

Dennis also mentioned that another need along these lines is the design of forms that are used university-wide. Richard said this team could address that also; so he asked that the IRC support the Computing Center's budget request.

Administrative Program Group

Joneel Harris reported for the Administrative Program Group that they have had a meeting with the Bradshaw Group regarding the replacement of the Computing Center's two, large Hewlett-Packard printers. The conclusion that has been reached is that a high-volume, continuous form printer will be maintained, possibly supplemented by smaller printers.

Innovative Projects Program

Dennis Mueller made a presentation on the Innovative Projects Program which was funded this year by Academic Affairs. The original idea of this program was that additional funds be appropriated to the academic budget for the innovative projects program for the purpose of providing a mechanism to implement innovative concepts that do not qualify for funding under any other programs. The committee created a procedure, or process, that has worked well this year, the intent of which is to help meet current and future research needs. This year, all of the funds were awarded to instruction proposals. This program is also seen as a way to fund IRC strategies; to provide funding for projects that are too large for a single department or college/school to implement; or to provide seed money for pilot programs that have high potential to attract external funding.

Dennis explained the process, the program's advantages, and outlined the evaluation guidelines used to determine awards. Dennis stressed that this program should be funded with additional monies not already in the academic budget; that it should not take from funds traditionally in college and departmental allocations; and that funding should not be in lieu of proposal matches, hiring start-up funds, or other initiatives in place. Dennis stated that he believes that the low amount of the awards this year prohibited inter-departmental cooperation on grant proposals, and that a larger amount of money would encourage that cooperation. He reiterated that this program will optimize enrollment while maintaining quality and avoiding the need for additional faculty or staff; it will enhance the quality of undergraduate and graduate instruction; it will make more efficient and productive use of University human, physical, financial, and informational resources; as well as enhance external funding in support of University priorities.

Dennis listed the proposals that were funded this year:

1. Computerization of Introductory Chemistry Labs (\$40,000);
2. Recapturing the Element of Fun in Education Contributive/Cooperative Learning via Multi-user Realtime Distributed Multimedia Educating Environments - Materials Science, Computer Science and Art joint proposal (\$20,000);
3. Multi-media equipment for department of Radio/TV/Film (\$40,000); and
4. College of Business, in conjunction with the Teaching with Technology Grant, to integrate Business curriculum in the Business environment classroom (\$30,000).

The total amount awarded this year was a little less than \$250,000, between this program and the Teaching with Technology Grant program. There was some discussion, during which a comment was made that some faculty were not aware that this grant program could be used for a pure research project. Funds have not yet been earmarked for this program in the 1997-98 fiscal year so Dennis moved that the IRC approve the allocation of \$600,000 for the Innovative Projects Program in FY97-98. No one objected to taking a vote at this meeting, and the motion.

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

1996 COMPUSTAT Data Available

By George Morrow, Academic Computing Services Programmer/Analyst (morrow@unt.edu)

Standard and Poor's COMPUSTAT data files contain financial, statistical, and market information on over 7,000 publicly held companies. The University of North Texas presently subscribes to the following COMPUSTAT files:

Description	Data Set Name	Accessed By
Bank - annual	COMP.BANK.ANNUAL	FORTRAN
Bank - quarterly	COMP.BANK.QUARTER	FORTRAN
Canadian - Annual	COMP.CANADA.INDUS	SAS DataSource
Industrial - Annual	USER.A000.COMSTAT2.INDUS96	SAS Program
Industrial - 48 Quarter	COMP.PSTIND.48QTR	SAS DataSource
Industrial - research	COMP.PSTIND.RSRCH	SAS DataSource
Over-the-Counter-annual	USER.A000.COMSTAT2.OTC96	SAS Program
Over-the-Counter-research	COMP.OTC.RESEARCH	SAS DataSource
Price, Dividends, Earnings	COMP.PDE.TOTAL	FORTRAN
S&P ACE (Consensus Est.)	COMP.SP.ACE.WKLY	FORTRAN

The COMPUSTAT Data consists of a computer readable library of financial, statistical, and market information covering several thousand industrial and nonindustrial companies. There are more than 300 variables available on the industrial files. A full range of fundamental data is provided including key income statements, balance sheets, changes in financial position, and market items.

The data tapes (magnetic) listed are accessible through FORTRAN or SAS programs submitted from CMS to the MVS batch system. To do this you must have active CMS and MVS User-IDs. To obtain those User-IDs, contact the [Computing Center](#) in ISB 119 (940-565-2324).

Proc Datasource is documented in the SAS/ETS User's Guide. Proc Datasource may be used to access the industrial, OTC, Canadian, and research files. The cut-off date for these files is July, 1996, therefore data are available for the years 1976 through 1995. Questions about COMPUSTAT, SAS, JCL and/or accessing these data tapes should be directed to [Academic Computing Services](#) in ISB 119 (940-565-2324).

[Previous Article](#)



[Next Article](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu

Who's Who in Distributed Learning

Jenny Jopling, head of the Interactive Learning Team, recently conducted telephone interviews with faculty members across campus to find out who is doing what with distributed learning at UNT. Included in her interview was a solicitation for mentoring to other faculty members who are interested in integrating these sorts of technologies with their teaching.

After working closely with Dr. Philip Turner, Associate VP of Distance Education, she produced a Web site which categorizes and describes the different technologies being used on campus, and faculty who agreed to become mentors. Check out www.unt.edu/dlearn. You might be surprised at how much is there. If you or someone you know is actively using these technologies and was missed, please contact Jenny Jopling at 565-4462 or E-mail jopling@unt.edu.

[Previous Article](#)



[Table of Contents](#)

If you have any problems or questions about this server, contact us as soon as possible. You can send mail to the following address: www@unt.edu